IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Lester F. LUDWIG Serial No.: 10/676,926 Filed: September 30, 2003 Title: DERIVATION OF CONTROL SIGNALS FROM REAL-TIME OVERTONE MEASUREMENTS Group Art Unit: 2837 Examiner: Marlon T. Fletcher Confirmation No. 8187 Attorney Docket No.: 92031/8727 [2152-3014]	Certificate of Transmission/Mailing I hereby certify that this correspondence is being facsimile transmitted to the USPTO, transmitted via the Office electronic filing system, or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below: March 31 , 2008 Date /Jeffrey J. Lotspeich/ Jeffrey J. Lotspeich Registration No. 45,737 Attorney for Appellant

APPEAL BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This brief is in furtherance of the Notice of Appeal filed January 31, 2008, and is submitted responsive to the second Office Action issued November 1, 2007. The time period for filing this Appeal Brief is two months from the January 31, 2008, filing date of the Notice Appeal. Payment via credit card for the statutory fee for an appeal brief in the amount of $255.00 is submitted herewith. Accordingly, Appellant submits the following:

TABLE OF CONTENTS

I. REAL PARTIES IN INTEREST

The real party in interest in this mater is the sole inventor, Lester F. Ludwig (hereinafter "Appellant").

II. RELATED APPEALS AND INTERFERENCES

Currently, there are six other related appeals which have been filed. These appeals have been filed in the following applications:

Docket No.	App. Ser. No.:	App. filing date:	Appeal filed:
2152-3005	09/812,400	March 19, 2001	January 25, 2007
2152-3023	10/680,591	October 6, 2003	January 31, 2008
2152-3027	10/702,262	November 5, 2003	January 29, 2007* March 12, 2008
2152-3026	10/703,023	November 5, 2003	July 25, 2006
2152-3033	10/737,042	December 15, 2003	December 12, 2007
2152-3044	11/040,163	January 21, 2005	January 31, 2008

With regard to Ser. No. 10/702,262 (Atty. Doc. No. 2152-3027), the Examiner has recently reopened prosecution by issuing an Office Action on December 10, 2007. On review of this Office Action, it is believed that the Examiner has improperly reopened prosecution as being in violation of the requirements of MPEP § 1207.04 since, *inter alia*, the Examiner failed to obtain the necessary approval from his supervisory patent examiner.[1]

Notwithstanding the improper reopening of prosecution in that case, since the Examiner has, in all relevant parts, simply reformulated the same rejections, Appellant has

1 The examiner may, with approval from the supervisory patent examiner, reopen prosecution to enter a new ground of rejection after appellant's brief or reply brief has been filed. MPEP 1207.04

filed a second Notice of Appeal in the '262 application on March 12, 2008.

Appellant notes further that there are approximately six additional pending applications containing substantially the same disclosure as the above-identified applications, and which are assigned to the same Examiner as the present application and the above-mentioned applications. Appellant anticipates that each of the six pending applications, which if rejected, will also require an appeal to the Board of Appeals and Interferences. Appellant will endeavor to update this section of the present Appeal Brief when necessary to reflect the current status of such related appeals.

III. STATUS OF CLAIMS

Claims 1-96 are all the claims pending in the application, with claims 1, 42, and 83 being the only independent claims. Claims 1-3, 12, 13, 17-19, 25-44, 46, 53, 54, 58-60, 66-88, and 90-96 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lindemann et al. (U.S. 5,744,742). Claims 4-11, 20-24, 45, 47-52, and 61-65 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindemann in view of Pattie (5,343,793) and Frick et al. (4,265,157). Claims 14-16, 55-57, and 89 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindemann in view of Suzuki (5,981,859). A copy of the rejected claims appears in the Appendix of Claims on Appeal attached to the Appeal Brief.

IV. STATUS OF AMENDMENTS

No amendment has been filed subsequent to the second Office Action issued November 1, 2007.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Briefly, with regard to claim 1, aspects of the present claim are directed to a system for control signal generation using detected dynamic characteristics of frequency components of an incoming electronic signal, such that the incoming electronic signal includes a fundamental frequency component and at least one overtone component of a higher frequency than the fundamental frequency component. The fundamental frequency component and the at least one overtone component comprising an amplitude parameter and a pitch parameter (Pg. 158 line 8 through pg. 162 line 5; Figures 64-66). The system includes at least one bandpass filter adapted to isolate the at least one overtone component from the incoming electronic signal to produce an isolated overtone signal (Pg. 160, lines 2-9; pg. 161 lines 19-20; pg. 162 lines 1-2; Figures 64-66). A separate signal parameter measurement element is operatively coupled with each filter of the at least one bandpass filter, wherein the signal parameter measurement element provides amplitude measurement of the isolated overtone signal resulting in an isolated overtone parameter signal (Pg. 160, lines 9-11; pg. 162 line 2-5; Figures 64-66), and a parameter signal processing unit for receiving the isolated overtone parameter signal, the parameter signal processing unit generating an outgoing control signal based upon the isolated overtone parameter signal (Pg. 160, line 11 through pg. 161 line 3; Figures 64-66 elements 6404, 6406).

With regard to independent claim 42, aspects of the present claim are directed to a method for control signal generation using detected dynamic characteristics of frequency components of an incoming electronic signal, the incoming electronic signal comprising a

fundamental frequency component and at least one overtone component of a higher frequency than the fundamental frequency component, the fundamental frequency component and the at least one overtone component comprising an amplitude parameter and a pitch parameter (Pg. 158 line 8 through pg. 162 line 5; Figures 64-66). The method includes isolating the at least one overtone component from the incoming electronic signal using at least one bandpass filter, wherein the isolating results in the production of an isolated overtone signal (Pg. 160, lines 2-9; pg. 161 lines 19-20; pg. 162 lines 1-2; Figures 64-66), and measuring amplitude of the isolated overtone signal using a separate signal parameter measurement element operatively coupled with each filter of the at least one bandpass filter, wherein the measuring results in an isolated overtone parameter signal (Pg. 160, lines 9-11; pg. 162 line 2-5; Figures 64-66). Another operation includes receiving the isolated overtone parameter signal at a parameter signal processing unit (Pg. 160, line 14; Figures 64-66 elements 6404, 6406), and generating an outgoing control signal at the parameter signal processing unit, wherein the outgoing control signal is generated based upon the isolated overtone parameter signal (Pg. 160, line 11 through pg. 161 line 3; Figures 64-66 elements 6404, 6406).

With regard to independent claim 83, aspects of the present claim are directed to a method for control signal generation using detected dynamic characteristics of frequency components of an incoming electronic signal, the incoming electronic signal comprising a fundamental frequency component and at least one overtone component of a higher frequency than the fundamental frequency component, the fundamental frequency component and the at least one overtone component comprising an amplitude parameter and a

pitch parameter (Pg. 158 line 8 through pg. 162 line 5; Figures 64-66). The method includes isolating the at least one overtone component from the incoming electronic signal to provide an isolated overtone signal (Pg. 160, lines 2-9; pg. 161 lines 19-20; pg. 162 lines 1-2; Figures 64-66), and measuring amplitude of the isolated overtone signal to generate an isolated overtone parameter signal comprising the amplitude signal (Pg. 160, lines 9-11; pg. 162 lines 2-5; Figures 64-66). A further operation includes generating an outgoing control signal based upon the isolated overtone parameter signal (Pg. 160, line 11 through pg. 161 line 3; Figures 64-66 elements 6404, 6406), wherein the outgoing control signal is adapted to control an external system (Pg. 160, lines 11-15; pg. 162 lines 2-5; Figures 64-66 element 6405).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-3, 12, 13, 17-19, 25-44, 46, 53, 54, 58-60, 66-88, and 90-96 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lindemann et al. (U.S. 5,744,742). Claims 4-11, 20-24, 45, 47-52, and 61-65 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindemann in view of Pattie (5,343,793) and Frick et al. (4,265,157). Claims 14-16, 55-57, and 89 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindemann in view of Suzuki (5,981,859).

VII. ARGUMENT

A. Lindemann fails to anticipate rejected claims under 35 U.S.C. §102(b)

Claims 1-3, 12, 13, 17-19, 25-44, 46, 53, 54, 58-60, 66-88, and 90-96 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lindemann et al. (U.S. 5,744,742). The point at issue is whether a control signal is the same as an audio signal. If it is somehow determined that these signals are the same, then the claims of the present invention are still believed to be patentable over the cited prior art for the reasons set forth herein at Sections B and C. On the other hand, if the Board determines that a control signal is not the same thing as an audio signal, then the claims of the present application are believed to be patentable over the cited prior art for the reasons set forth herein at Sections A, B and C.

A.1 Appellant's position-- Lindemann discloses audio, not a control signal

Claim 1 is directed toward a system for control signal generation and recites "a parameter signal processing unit . . . generating an outgoing control signal based upon said isolated overtone parameter signal." The Examiner suggests that pitched part 140 of the Lindemann patent teaches the above-identified claim element.[2]

---

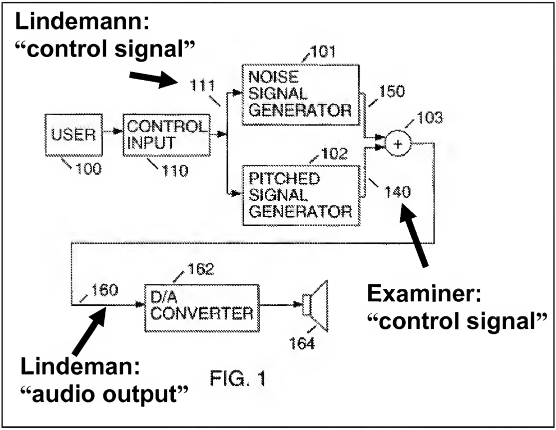
[2] Office Action of 10/29/07, pg. 2.

Appellant's review of Lindemann reveals a discussion relating to pitched part 140 being associated with audio output, not the claimed "outgoing control signal." Portions of Lindemann relating to this position are as follows:

> "FIG. 1 shows a high level block diagram of a parametric signal modeling music synthesizer according to the present invention. In a typical configuration, a user 100 selects an instrument and requests a particular tone through an input device 110, such as a keyboard. Electronic control signals 111 typically specify at least the instrument and an initial pitch and intensity. Audio output 160 of this musical tone is the sum 103 of two components: a pitched part 140 generated by pitched signal generator 102, and a noise part 150 generated by noise signal generator 101. Separating a tone into these two components makes each component easier to model. Audio output 160 is then typically run through a digital-to-analog converter 162 to a speaker 164."
>
> "FIG. 2 shows an intermediate level block diagram of pitched signal generator block 102 of the parametric signal modeling music synthesizer of FIG. 1. Control input 110 provides control signals 111, which control the instrument and pitch of the desired output tone 140."[3]

Fig. 1 of Lindemann supports Appellants position and further discloses that pitched part 140 relates to audio, not the claimed "outgoing control signal." Presented below are relevant portions of Fig. 1 which have been annotated in accordance with the disclosure of Lindemann and the position of the Examiner.

[3] Lindemann col. 6, lines 10-22 and 51-55 (emphasis added).



The forgoing figure and disclosure of Lindemann clearly establishes that pitched part 140 relates to <u>audio</u>, not the claimed "outgoing <u>control</u> signal." Although Lindemann discloses control signals 111, such signals are apparently utilized by pitch signal generator 102 for specifying output tone 140. This output tone is part of an audio signal (audio output 160). Recall that Lindemann requires that "Audio output 160 of this musical tone is the sum 103 of two components: a pitched part 140 generated by pitched signal generator 102, and a noise part 150 generated by noise signal generator 101."[4]

[4] Lindeman col. 6, lines 16-19.

It is the position of the Examiner that pitched part 140 of Lindemann teaches the claimed "outgoing control signal." However, Appellant has established that the pitched part 140 is part of an audio signal (signal 160). Appellant emphasizes that control signals and audio signals are completely different types of signals. For these reasons, Lindemann is deficient as an anticipatory reference since it does not teach or suggest the claimed "outgoing control signal" as required by claim 1.

A.2 Examiner's position and Appellant's response

Responding to the points raised by the Appellant, the Examiner makes clear his position is that an audio signal is the same thing as a control signal. In particular, the Examiner states:

- "The control and audio signals go hand in hand" and
- ". . . the audio signal can also be considered a control signal."[5]

Appellant submits that the Examiner's position is misplaced—control signals and audio signals are **not** the same thing. For support, Appellant provides the following.

First, the applied Lindemann reference itself distinguishes between control signals and audio signals. Appellant invites the Board's attention to annotated FIG. 1 of Lindemann which clearly discloses control signal 111 as being a completely separate and distinct signal from both audio tone 140 and audio output 160. Appellant assumes

5 Office Action of 10/29/07, pg. 5.

arguendo that either or both of audio tone 140 and audio output 160 disclose an "audio signal." Even if this were true, Lindemann is simply limited to teaching the providing of these "audio signals" based on the completely separate control signal 111. The point is that audio tone 140 is an audio signal, which is completely different than a control signal such as control signal 111.

Moreover, nowhere does Lindemann suggest that control signals and audio signals "go hand in hand" as suggested by the Examiner. Indeed, Lindemann discloses the complete opposite of the Examiner's position by describing these signals as completely separate signals. For instance, control signal 111 does not go "hand in hand" with audio output 160. The forgoing portions of Lindemann supports Appellant's position, and provides nothing to support the Examiner's position.

As a second point, issued patents that were examined by the Examiner of the present application support Appellant's position that audio signals are different than control signals. More specifically, a recent review of the USPTO electronic records revealed that 13 patents have issued which include claims reciting both "audio signals" and "control signals." See, for example, the following two screenshots of the USPTO search results.

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

Home | Quick | Advanced | Pat Num | Help

Bottom | View Cart

Searching US Patent Collection...

Results of Search in US Patent Collection db for:
((ACLM/"control signal" AND EXA/fletcher) AND ACLM/"audio signal"): 5 patents.
Hits 1 through 5 out of 5

Jump To

Refine Search ACLM/"control signal" AND EXA/fletcher AND ACLM/"

	PAT. NO.		Title
1	5,990,405	T	System and method for generating and controlling a simulated musical concert experience
2	5,841,387	T	Method and system for encoding a digital signal
3	5,726,373	T	Video-song accompaniment apparatus using a compact disc as a recording medium
4	5,668,339	T	Apparatus for multiplexing an audio signal in a video-song playback system
5	5,614,687	T	Apparatus for detecting the number of beats

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

Home | Quick | Advanced | Pat Num | Help

Bottom | View Cart

Searching US Patent Collection...

Results of Search in US Patent Collection db for:
((EXP/fletcher AND ACLM/"audio signal") AND ACLM/"control signal"): 8 patents.
Hits 1 through 8 out of 8

Jump To

Refine Search EXP/fletcher AND ACLM/"audio signal" AND ACLM/"c

	PAT. NO.		Title
1	7,339,107	T	Method of and system for controlling audio effects
2	7,309,829	T	Layered signal processing for individual and group output of multi-channel electronic musical instruments
3	7,309,828	T	Hysteresis waveshaping
4	7,038,123	T	Strumpad and string array processing for musical instruments
5	6,914,181	T	Digital interface for analog musical instrument
6	6,852,919	T	Extensions and generalizations of the pedal steel guitar
7	6,849,795	T	Controllable frequency-reducing cross-product chain
8	6,605,769	T	Musical instrument digital recording device with communications interface

Top | View Cart

Home | Quick | Advanced | Pat Num | Help

Note also that 5 of the foregoing 8 issued patents have the same inventor as the present application

This begs the question that if these terms mean the same thing, then why did the Examiner permit such applications to issue? Appellant surmises that the answer is that because in each of these cases, the Examiner did not take the novel approach that control

signals and audio signals are the same. Clearly the use of different terms in a claim (control signal and audio signal) that mean the same thing would surely raise a red flag during examination. However, the fact remains that the Examiner did permit each of these patents to issue.

Further support on this point is that since 1976, 1,344 patents have issued which include claims that recite both a "control signal" and an "audio signal." See, for example, the following screenshots of the USPTO search results.

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

Home | Quick | Advanced | Pat Num | Help

Next List | Bottom | View Cart

Searching US Patent Collection...

Results of Search in US Patent Collection db for:
ACLM/"audio signal" AND ACLM/"control signal": 1344 patents.
Hits 1 through 50 out of 1344

Next 50 Hits

Jump To

Refine Search ACLM/"audio signal" AND ACLM/"control signal"

	PAT. NO.		Title
1	7,342,522	T	Digital audio player and playing method thereof
2	7,339,959	T	Signal transmitter and signal receiver
3	7,339,425	T	Class-D audio amplifier with half-swing pulse-width-modulation
4	7,339,107	T	Method of and system for controlling audio effects
5	7,337,026	T	Digital audio volume control
6	7,327,402	T	Video displayer facilitating channels and video/audio input settings
7	7,327,381	T	Signal transmission system, signal transmitter, and signal receiver
8	7,320,136	T	Apparatus for connecting TV and computer
9	7,319,962	T	Automatic voice and data recognition for implanted medical device instrument systems
10	7,319,807	T	VCR and optical disk composite medium reproducing apparatus and medium control method using the same
11	7,319,768	T	Hearing aid and method for the detection and automatic selection of an input signal
12	7,309,829	T	Layered signal processing for individual and group output of multi-channel electronic musical instruments
13	7,309,828	T	Hysteresis waveshaping
14	7,302,062	T	Audio enhancement system
15	7,295,567	T	Audio signal rate adaptation method and system
16	7,288,712	T	Music station for producing visual images synchronously with music data codes
17	7,286,060	T	Indicators for vacuum tube replacement devices
18	7,279,966	T	Systems for pseudo-BD modulation
19	7,279,965	T	Reduction of audible artifacts in an audio system

As a third point, those of ordinary skill in the art recognize that a control signal is different from an audio signal. This distinction is well-understood and commonplace not only in audio technology, electronic music technology, and yet other areas such as phase locked loop systems. Some examples in the area of electronic music include:

- "To qualify as a synthesizer, a software (or hardware) device needs three things. It needs one or more audio signal sources, one or more audio signal modifiers, and one or more control signal sources. Often these are represented on the panel of the synth as separate sections called modules. When the synth is making a sound, a signal of some sort is generated by an audio signal source. The signal then passes through the audio modifier(s) on its way to the output."[6]
- "The term low-frequency oscillation (LFO) is an audio signal usually below 20 Hz which creates a pulsating rhythm rather than an audible tone. LFO predominantly refers to an audio technique specifically used in the production of electronic music. The abbreviation is also very often used to refer to low-frequency oscillators themselves, which produce the effects explored in this article."[7]
- "Simple frequency modulation: modulatefrequency.txt

  This demonstrates the use of a sub-audio-rate oscillator as a 'control signal' to modulate (change) some parameter of an audio signal. In this case, it's one cosine

[6] "Software Synthesizers: The Definitive Guide to Virtual Musical Instruments," by Jim Aikin, pg. 259 (2003).

[7] "Low-frequency oscillation," as defined by Wikipedia at <<en.wikipedia.org>>.

oscillator (which we don't hear directly) being used to cause slow change in the frequency of another oscillator (the one we actually hear)."[8]

- "When a key is depressed on the keyboard a pitch control signal is sent to the oscillators (VCO- Voltage Control Oscillator). An oscillator is a circuit that creates a single periodic wave form at a desired frequency (Moog 17). The oscillator generates the desired frequency and wave form and then routes an audio signal to the Voltage Control Filter (VCF) (49)"[9]
- "Again, it is crucial to understand the signal flow concept. Some of the modules might have CV (control voltage) input/output. Know the difference between audio signal and control signal."[10]
- A phase locked loop technology example is found in a Wikipedia page for phase locked loops, wherein the control signal is distinguished from the oscillator signal: "Since the control signal directly impacts the phase this is all that is required. A PLL compares the phase of its oscillator with the incoming signal to generate an error signal which is then integrated twice to create a control signal for the voltage-controlled oscillator. The control signal impacts the frequency of the

---

8 http://209.85.173.104/search?q=cache:ejQzPAMhLQUJ:music.arts.uci.edu/dobrian/CAMP06/professorpage.htm+music+%22control+signal%22+%22audio+signal%22&hl=en&ct=clnk&cd=9&gl=us

9 http://209.85.173.104/search?q=cache:-WSsjXQsvFEJ:www.geocities.com/sunsetstrip/studio/5821/analog.html+%22control+signal%22+synthesizer+%22audio+signal%22&hl=en&ct=clnk&cd=4&gl=us

10 http://209.85.173.104/search?q=cache:-97WRM9ydJ8J:emu.music.ufl.edu/courses/4313/4313prj2.html+%22control+signal%22+synthesizer+%22audio+signal%22&hl=en&ct=clnk&cd=10&gl=us)

oscillator and since frequency is the derivative of phase the second integration is required." [11]

As a further example, the Appeals board is invited to review U.S. 5,684,722 by Thorner et al., entitled "Apparatus and Method for Generating a Control Signal for a Tactile Sensation Generator" issued November 4, 1997. Referring to Figure 1 of the '722 patent, audio signal 104 is shown converted to a control signal 108 for controlling an outside system 110. Claim 1 of this patent reads:

"1. Apparatus for generating a control signal for a tactile sensation generator comprising:

an audio signal processor for processing audio signals and generating a processed signal; and

a control signal generator, connected to said audio signal processor, for generating, in response to said processed signal, said control signal for controlling the tactile sensation generator."

This claim clearly does not support the notion that a "control signal" is the same as an "audio signal."

Although the control signal recited in Appellant's claim 1 is to be interpreted in accordance with the teachings of the present specification, the point being made is that it is a well recognized principle that control signals and audio signals are different types of signals. In view of the wide variety of the foregoing examples, there is absolutely no basis to support the position of the Examiner that an audio signal is the same as a control signal.

---

11 "Delay-locked loop," as defined by Wikipedia at <<en.wikipedia.org>>.

All of the evidence of record supports Appellant's position that an audio signal is different than a control signal. Indeed, the Examiner provides absolutely no support for his position. Since these signals are not the same thing, then the audio signals of Lindemann cannot therefore teach or suggest the claimed "control signal" recited in claim 1. It is therefore a clear error for the Examiner to maintain the rejection to the claims based upon this unsupported understanding.

B. Examiner fails to consider Appellant's argument

Further with regard to claim 1, the next error for which Appellant seeks review is two-fold. First, Appellant has identified a number of elements recited in claim 1 and which are simply missing from the cited Lindemann reference. Each of these distinctions have been presented during prosecution and will also be described in detail below. The second error relates to the Examiner's failure to comply with MPEP 707.07(f) which requires that the Examiner ". . . take note of the applicant's argument and answer the substance of it." On this point, the Examiner has failed to address or even acknowledge the comments provided by Appellant in response to the first Office Action.[12] In particular, Appellant submitted four separate points in the response, to which the Examiner only addressed one of the points (the control vs. audio signal issue discussed above).[13] The three points to which the Examiner failed to address are presented below in subheadings B.1 through B.3.

---

12 Response filed 7/26/07.

13 Response of 7/26/07, pgs. 2-9; Office Action of 10/29/07, pgs. 5 and 6.

B.1 Envelope builder 125 does not provide amplitude measurement

Claim 1 further recites "a separate signal parameter measurement element operatively coupled with each filter of said at least one bandpass filter." The Examiner suggests that formant filter generator 130 teaches a "bandpass filter" and amplitude envelope builder 125 teaches a "signal parameter measurement element."[14] Appellant assumes *arguendo* that Lindemann provides such teachings.

Note further that claim 1 also requires a "bandpass filter adapted to . . . produce an isolated overtone signal," and that the "signal parameter measurement element . . . provides amplitude measurement of said isolated overtone signal."

In order for Lindemann to teach the just-stated claim element, generator 130 (bandpass filter) must produce an isolated overtone signal. Moreover, Lindemann must also teach that envelope builder 125 (signal parameter measurement element) provides amplitude measurement of the isolated overtone signal (i.e., the signal produced by generator 130). Provided below is the relevant portion of Fig. 3 of Lindemann.

---

14 Office Action of 10/29/07, pg. 2.

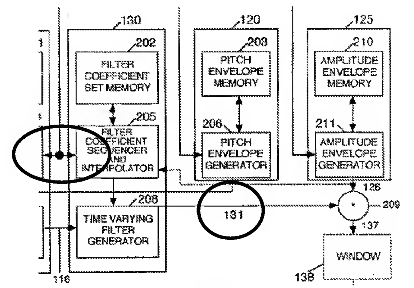


FIGURE 3

Appellant further assumes for the sake of argument that the output of generator 130 (bandpass filter) produces an isolated overtone signal. Even if this were correct, envelope builder 125 (signal parameter measurement element) never provides amplitude measurement of this isolated overtone signal. The reason is simple; the output of generator 130 (i.e., the isolated overtone signal) is never presented or otherwise provided to envelope builder 125 in order for the envelope builder 125 to provide the required amplitude measurement of this signal. Fig. 3 of Lindemann is unmistakably clear on this point.

Lindemann therefore does not disclose that envelope builder 125 (signal parameter measurement element) provides amplitude measurement of an isolated overtone signal (i.e., a signal produced by generator 130). As such, Lindemann cannot teach a "signal parameter measurement element . . . provides amplitude measurement of said <u>isolated overtone signal</u>" as recited by claim 1.

B.2 No amplitude measurement

Recall that claim 1 requires a "signal parameter measurement element provides amplitude measurement of said isolated overtone signal resulting in an isolated overtone parameter signal." Recall further that the Examiner indicates that envelope builder 125 teaches this claim element.[15]

Appellant's review of Lindemann finds that ". . . amplitude envelope builder 125 generates an amplitude envelope which modifies intermediate tone 131, also in a time varying manner."[16] In contrast to the assertions set forth in the Action, Lindemann never describes envelope builder 125 as providing "amplitude measurement." To the contrary, envelope builder 125 is described as generating an amplitude envelope, which has nothing to do with an "amplitude measurement." Put another way, generating an amplitude envelope is not the same thing as providing amplitude measurement. Accordingly, envelope builder 125 cannot teach or suggest the "signal parameter measurement element" as recited by claim 1.

B.3 No fundamental frequency component or overtone component

Claim 1 also recites an "incoming electronic signal comprising a fundamental frequency component and at least one overtone component of a higher frequency than said fundamental frequency component."

---

15 Office Action of 10/29/07, pg. 2.

16 Lindeman col. 7, lines 7-9.

The Examiner relies upon Fig. 3 of the Lindemann reference as purportedly teaching this feature. [17] This portion of the rejection is provided below:

> Lindemann et al. disclose a system (figure 3) for control signal generation using detected dynamic characteristics of frequency components of an incoming electronic signal, said incoming electronic signal comprising a fundamental frequency component and at least one overtone component of a higher frequency than said fundamental frequency component, said fundamental frequency component and said at least one overtone component comprising an amplitude parameter and a pitch parameter, said

Appellant is unable to discern (because the rejection is silent) which signals of Fig. 3 purportedly provide the requisite teaching of the claimed "incoming electronic signal." The identified figure depicts a number of components and signals.

Appellant further emphasizes that the claim explicitly recites that this electronic signal comprise a "fundamental frequency component and at least one overtone component." To allow Appellant a fair opportunity to address the rejection, the Office Action must identify which portions of Fig. 3 disclose the claimed signal and components. Such action violates the requirements of MPEP 707, citing 37 CFR § 1.104(c)(2), which provides:

> "... When a reference is complex or shows or describes other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claims specified."

---

17 Office Action of 10/29/07, pg. 2.

Because the Examiner has failed to sufficiently identify the particular portion of Lindemann relied upon to support the rejection (i.e., which signals teach the claimed "incoming electronic signal"), Appellant has been prevented a fair opportunity to address the merits of the Action.

In view of the forgoing, Lindemann fails to teach or suggest a number of features recited in claim 1. In addition, the Examiner's failure to comply with MPEP 707.07(f) represents further error for which Appellant's seeks review.

C. Office Action is silent on at least 74 claims

Claims 1-3, 12, 13, 17-19, 25-44, 46, 53, 54, 58-60, 66-88, and 90-96 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lindemann et al. (U.S. 5,744,742). Claims 4-11, 20-24, 45, 47-52, and 61-65 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindemann in view of Pattie (5,343,793) and Frick et al. (4,265,157).

Both Office Actions issuing in the present application, which are nearly identical in all relevant parts of the foregoing rejection, fail to address a number of claims which have been indicated as rejected by the Examiner. In particular, the Examiner has failed to set out rejections to the following 74 claims:

- 7-11, 12, 13, 17-19, 22-41, 46, 48-52, 53, 54, 58-65, 66-82, 86-88, and 90-96.

Such action violates requirements of MPEP § 707, citing 37 CFR § 1.104(c)(2), which provides:

> "... When a reference is complex or shows or describes other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claims specified."

Because the Examiner has failed to sufficiently identify the particular portions of the cited references relied upon to support the rejection to the identified 74 claims, as required by MPEP § 707, Appellant has been prevented a fair opportunity to respond to the rejection.

D. Claims currently in condition for allowance

Appellant has demonstrated a number of errors in the rejections to claim 1. Since independent claims 42 and 83 have language similar to that of claim 1, it is believed that similar errors exist with regard to the rejections to these claims. Appellant has also demonstrated a number of errors with the rejections to above-identified dependent claims. Appellant therefore submits that the identified rejections are improper and that independent claims 1, 42, and 83, and the identified dependent claims are allowable over the asserted references. Appellant further submits that the other rejected dependent claims are believed patentable at least by virtue of their respective dependency on the patentable independent claims.

Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the decision rejecting the identified claims and direct the Examiner to pass the case to issue.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY

/Jeffrey J. Lotspeich/

Jeffrey J. Lotspeich
Registration No. 45,737
Attorney for Appellant

Date: March 31, 2008

Address all correspondence to:
FITCH, EVEN, TABIN & FLANNERY
120 So. LaSalle Street, Ste. 1600
Chicago, IL 60603

Direct telephone inquiries to:
Jeffrey J. Lotspeich
(858) 587-7652
San Diego, California Office of
FITCH, EVEN, TABIN & FLANNERY

CLAIMS APPENDIX

1. (Rejected) A system for control signal generation using detected dynamic characteristics of frequency components of an incoming electronic signal, said incoming electronic signal comprising a fundamental frequency component and at least one overtone component of a higher frequency than said fundamental frequency component, said fundamental frequency component and said at least one overtone component comprising an amplitude parameter and a pitch parameter, said system comprising:

at least one bandpass filter adapted to isolate said at least one overtone component from said incoming electronic signal to produce an isolated overtone signal;

a separate signal parameter measurement element operatively coupled with each filter of said at least one bandpass filter, wherein said signal parameter measurement element provides amplitude measurement of said isolated overtone signal resulting in an isolated overtone parameter signal; and

a parameter signal processing unit for receiving said isolated overtone parameter signal, said parameter signal processing unit generating an outgoing control signal based upon said isolated overtone parameter signal.

2. (Rejected) The system according to claim 1, wherein said isolated overtone parameter signal comprises an amplitude parameter.

3. (Rejected) The system according to claim 1, wherein said signal parameter measurement element further provides pitch measurement resulting in said isolated overtone parameter signal comprising a pitch parameter.

4. (Rejected) The system according to claim 1, wherein said incoming electronic signal is generated by a vibration-sensing transducer in response to vibrations of a vibrating element.

5. (Rejected) The system according to claim 1, wherein said incoming electronic signal further includes a plurality of overtone components, wherein each of said plurality of overtone components have a higher frequency than said fundamental frequency component, said fundamental frequency component and each of said plurality of overtone components comprising an amplitude parameter and a pitch parameter, said system further comprising:

a filter bank comprising a plurality of said bandpass filters, wherein each bandpass filter of said plurality of bandpass filters is adapted to isolate a particular overtone component of said plurality of overtone components to generate an isolated overtone signal, said filter bank providing a plurality of isolated overtone signals generated by said plurality of bandpass filters, wherein;

said separate signal parameter measurement element is operatively coupled with each of said plurality of bandpass filters comprising said filter bank, wherein each of said plurality of signal parameter measurement elements is adapted to provide amplitude measurement of a particular isolated overtone signal of said plurality of isolated overtone signals to generate an isolated overtone parameter signal, and wherein;

said parameter signal processing unit is adapted to receive said isolated overtone parameter signal from each of said plurality of signal parameter measurement elements, said parameter signal processing unit generating at least one outgoing control signal based upon one or more of said plurality of isolated overtone parameter signals.

6. (Rejected) The system according to claim 1, wherein said incoming electronic signal is generated by a vibration-sensing transducer in response to a vibrating string.

7. (Rejected) The system according to claim 1, wherein said incoming electronic signal is generated by a vibration-sensing transducer in response to a human voice.

8. (Rejected) The system according to claim 7, wherein said human voice comprises at least one sung vowel.

9. (Rejected) The system according to claim 1, wherein said incoming electronic signal is generated by a vibration-sensing transducer in response to a vibrating reed.

10. (Rejected) The system according to claim 1, wherein said incoming electronic signal is generated by a vibration-sensing transducer in response to a vibrating column of air.

11. (Rejected) The system according to claim 1, wherein said incoming electronic signal is generated by a vibration-sensing transducer in response to a vibrating element of a percussion instrument.

12. (Rejected) The system according to claim 1, wherein said parameter processing unit generates said outgoing control signal based upon a ratio of a parameter of said isolated overtone parameter signal relative to a parameter of said fundamental frequency of said incoming electronic signal.

13. (Rejected) The system according to claim 5, wherein said parameter processing unit generates said outgoing control signal based upon a ratio of a first isolated overtone parameter signal associated with a first isolated overtone signal of said plurality of said isolated overtone signals relative to a second isolated overtone parameter signal associated with a second isolated overtone signal of said plurality of said isolated overtone signals.

14. (Rejected) The system according to claim 1, wherein said outgoing control signal comprises a signal of MIDI format.

15. (Rejected) The system according to claim 1, wherein said outgoing control signal comprises a signal of MIDI note format.

16. (Rejected) The system according to claim 1, wherein said outgoing control signal comprises a signal of MIDI continuous controller format.

17. (Rejected) The system according to claim 1, wherein said bandpass filter is a controllable bandpass filter.

18. (Rejected) The system according to claim 1, wherein said outgoing control signal is communicated to an external system comprising a synthesizer.

19. (Rejected) The system according to claim 1, wherein said outgoing control signal is communicated to an external system comprising a signal processor controlled by said outgoing control signal.

20. (Rejected) The system according to claim 1, wherein said incoming electronic signal is generated by a vibration-sensing transducer in response to plucking of a vibrating element.

21. (Rejected) The system according to claim 1, wherein said incoming electronic signal is generated by a vibration-sensing transducer in response to bowing of a vibrating element.

22. (Rejected) The system according to claim 1, wherein said incoming electronic signal is generated by a vibration-sensing transducer in response to vibrations of a vibrating element, wherein

said incoming electronic signal is further amplified by an amplifier to produce an amplified drive signal, and wherein

said amplified drive signal drives at least one drive transducer to stimulate said vibrating element.

23. (Rejected) The system according to claim 22, wherein said at least one drive transducer is a piezo transducer.

24. (Rejected) The system according to claim 22, wherein said vibration-sensing transducer is a piezo transducer.

25. (Rejected) The system according to claim 1, wherein variations of said isolated overtone parameter signal are tracked over time.

26. (Rejected) The system according to claim 1, wherein said isolated overtone parameter signal is further processed by nonlinear warping.

27. (Rejected) The system according to claim 1, wherein said signal parameter measurement element comprises a nonlinear warping characteristic.

28. (Rejected) The system according to claim 26, wherein said nonlinear warping is performed by said parameter processing unit.

29. (Rejected) The system according to claim 26, wherein said isolated overtone parameter signal comprises nonlinear warping exhibiting substantially logarithmic behavior.

30. (Rejected) The system according to claim 26, wherein said isolated overtone parameter signal comprises nonlinear warping exhibiting piecewise linear behavior.

31. (Rejected) The system according to claim 1, wherein said parameter processing unit generates said outgoing control signal by mathematical operations applied to a plurality of parameters of said isolated overtone parameter signal.

32. (Rejected) The system according to claim 31, wherein said mathematical operations include averaging a plurality of parameters of said isolated overtone parameter signal.

33. (Rejected) The system according to claim 31, wherein said mathematical operations include sums-of-squares calculations of a plurality of parameters of said isolated overtone parameter signal.

34. (Rejected) The system according to claim 5, wherein there is a plurality of said outgoing control signals , said plurality of said outgoing control signals communicated to an external synthesizer, wherein said external synthesizer generates a synthesized audio signal based upon and said outgoing control signal, wherein said synthesized audio signal complements a harmonic balance of said incoming electronic signal.

35. (Rejected) The system according to claim 5, wherein there is a plurality of said outgoing control signals, said plurality of said outgoing control signals communicated to an external synthesizer, where said external synthesizer generates a synthesized audio signal based upon said outgoing control signal, wherein said synthesized audio signal mimics a harmonic balance of said incoming electronic signal.

36. (Rejected) The system according to claim 1, wherein said parameter processing unit generates said outgoing control signal by assigning said isolated overtone parameter signal to a particular type of outgoing control signal.

37. (Rejected) The system according to claim 1, wherein said parameter processing unit combines a plurality of parameters of said isolated overtone parameter signal to generate a mathematically combined signal, and wherein said parameter processing unit generates said outgoing control signal by assigning said mathematically combined signal to a particular type of outgoing control signal.

38. (Rejected) The system according to claim 1, wherein said parameter processing unit processes a parameter of said isolated overtone parameter signal to generate a processed signal, and wherein said parameter processing unit generates said outgoing control signal by assigning said processed signal to a particular type of outgoing control signal.

39. (Rejected) The system according to claim 1, wherein said parameter processing unit processes a plurality of parameters of said isolated overtone parameter signal to generate a mathematically combined signal, and wherein said parameter processing unit generates said outgoing control signal by assigning said mathematically combined signal to a particular type of outgoing control signal.

40. (Rejected) The system according to claim 1, said system further comprising:

a model-based overtone series calculator coupled with said bandpass filter, wherein said calculator provides filter control signals for centering said bandpass filter.

41. (Rejected) The system according to claim 40, wherein said calculator further provides overtone center line frequency information to one or more of said at least one bandpass filters.

42. (Rejected) A method for control signal generation using detected dynamic characteristics of frequency components of an incoming electronic signal, said incoming electronic signal comprising a fundamental frequency component and at least one overtone component of a higher frequency than said fundamental frequency component, said fundamental frequency component and said at least one overtone component comprising an amplitude parameter and a pitch parameter, said method comprising:

isolating said at least one overtone component from said incoming electronic signal using at least one bandpass filter, wherein said isolating results in the production of an isolated overtone signal;

measuring amplitude of said isolated overtone signal using a separate signal parameter measurement element operatively coupled with each filter of said at least one bandpass filter, wherein said measuring results in an isolated overtone parameter signal;

receiving said isolated overtone parameter signal at a parameter signal processing unit; and

generating an outgoing control signal at said parameter signal processing unit, wherein said outgoing control signal is generated based upon said isolated overtone parameter signal.

43. (Rejected) The method according to claim 42, wherein said isolated overtone parameter signal comprises an amplitude parameter.

44. (Rejected) The method according to claim 42, wherein said isolated overtone parameter signal comprises a pitch parameter.

45. (Rejected) The method according to claim 42, said method further comprising:

generating said incoming electronic signal using a vibration-sensing transducer, wherein said incoming electronic signal is generated in response to vibrations present in a vibrating element.

46. (Rejected) The method according to claim 42, wherein said incoming electronic signal further includes a plurality of overtone components, wherein each of said plurality of overtone components have a higher frequency than said fundamental frequency component, said fundamental frequency component and each of said plurality of overtone components comprising an amplitude parameter and a pitch parameter, said method further comprising:

isolating each overtone component of said plurality of overtone components of said incoming electronic signal using a corresponding plurality of bandpass filters, wherein said isolating of said plurality of overtone components generate a corresponding plurality of isolated overtone signals;

directing each isolated overtone signal of said plurality of isolated overtone signals to a separate signal parameter measurement element;

measuring amplitude of said plurality of isolated overtone signals to generate a corresponding plurality of isolated overtone parameter signals;

receiving said plurality of isolated overtone parameter signals at a parameter signal processing unit; and

generating at least one outgoing control signal for each parameter signal of said plurality of isolated overtone parameter signals.

47. (Rejected) The method according to claim 42, said method further comprising:

generating said incoming electronic signal using a vibration-sensing transducer, wherein said incoming electronic signal is generated in response to vibration present in a vibrating string.

48. (Rejected) The method according to claim 42, said method further comprising:

generating said incoming electronic signal using a vibration-sensing transducer, wherein said incoming electronic signal is generated in response to a human voice.

49. (Rejected) The method according to claim 48, wherein said human voice comprises at least one sung vowel.

50. (Rejected) The method according to claim 42, said method further comprising:

generating said incoming electronic signal using a vibration-sensing transducer, wherein said incoming electronic signal is generated in response to a vibrating reed.

51. (Rejected) The method according to claim 42, said method further comprising:

generating said incoming electronic signal using a vibration-sensing transducer, wherein said incoming electronic signal is generated in response to a vibrating column of air.

52. (Rejected) The method according to claim 42, said method further comprising:

generating said incoming electronic signal using a vibration-sensing transducer, wherein said incoming electronic signal is generated in response to a vibrating element of a percussion instrument.

53. (Rejected) The method according to claim 42, wherein said parameter processing unit generates said outgoing control signal based upon a ratio of a parameter of said isolated overtone parameter signal relative to a parameter of said fundamental frequency of said incoming electronic signal.

54. (Rejected) The method according to claim 46, wherein said parameter processing unit generates said outgoing control signal based upon a ratio of a first isolated overtone parameter signal associated with a first isolated overtone signal of said plurality of said isolated overtone signals relative to a second isolated overtone parameter signal associated with a second isolated overtone signal of said plurality of said isolated overtone signals.

55. (Rejected) The method according to claim 42, wherein said outgoing control signal comprises a signal of MIDI format.

56. (Rejected) The method according to claim 42, wherein said outgoing control signal comprises a signal of MIDI note format.

57. (Rejected) The method according to claim 42, wherein said outgoing control signal comprises a signal of MIDI continuous controller format.

58. (Rejected) The method according to claim 42, wherein said bandpass filter is a controllable bandpass filter.

59. (Rejected) The method according to claim 42, wherein said outgoing control signal is communicated to an external system comprising a synthesizer.

60. (Rejected) The method according to claim 42, wherein said outgoing control signal is communicated to an external system comprising a signal processor controlled by said outgoing control signal.

61. (Rejected) The method according to claim 42, said method further comprising:

generating said incoming electronic signal using a vibration-sensing transducer, wherein said incoming electronic signal is generated in response to plucking of said vibrating element.

62. (Rejected) The method according to claim 42, said method further comprising:

generating said incoming electronic signal using a vibration-sensing transducer, wherein said incoming electronic signal is generated in response to bowing of said vibrating element.

63. (Rejected) The method according to claim 42, said method further comprising:

generating said incoming electronic signal using a vibration-sensing transducer, wherein said incoming electronic signal is generated in response to vibration present in a vibrating element;

amplifying further said incoming electronic signal to produce an amplified drive signal; and

stimulating said vibrating element using at least one drive transducer driven by said amplified drive signal.

64. (Rejected) The method according to claim 63, wherein said at least one drive transducer is a piezo transducer.

65. (Rejected) The method according to claim 63, wherein said vibration-sensing transducer is a piezo transducer.

66. (Rejected) The method according to claim 42, wherein variations of said isolated overtone parameter signal are tracked over time.

67. (Rejected) The method according to claim 42, wherein said isolated overtone parameter signal is further processed by nonlinear warping.

68. (Rejected) The method according to claim 42, wherein said signal parameter measurement element comprises a nonlinear warping characteristic.

69. (Rejected) The method according to claim 67, wherein said nonlinear warping is performed by said parameter processing unit.

70. (Rejected) The method according to claim 67, wherein said isolated overtone parameter signal comprises nonlinear warping exhibiting substantially logarithmic behavior.

71. (Rejected) The method according to claim 67, wherein said isolated overtone parameter signal comprises nonlinear warping exhibiting piecewise linear behavior.

72. (Rejected) The method according to claim 42, wherein said parameter processing unit generates said outgoing control signal by mathematical operations applied to a plurality of parameters of said isolated overtone parameter signal.

73. (Rejected) The method according to claim 72, wherein said mathematical operations include averaging a plurality of parameters of said isolated overtone parameter signal.

74. (Rejected) The method according to claim 72, wherein said mathematical operations include sums-of-squares calculations of a plurality of parameters of said isolated overtone parameter signal.

75. (Rejected) The method according to claim 46, wherein there is a plurality of said outgoing control signals, said plurality of said outgoing control signals communicated to an external synthesizer, where said external synthesizer generates a synthesized audio signal based upon said outgoing control signal, wherein said synthesized audio signal complements a harmonic balance of said incoming electronic signal.

76. (Rejected) The method according to claim 73, wherein there is a plurality of said outgoing control signals, said plurality of said outgoing control signals communicated to an external synthesizer, where said external synthesizer generates a synthesized audio signal based upon said outgoing control signal, wherein said synthesized audio signal mimics a harmonic balance of said incoming electronic signal.

77. (Rejected) The method according to claim 42, wherein said parameter processing unit generates said outgoing control signal by assigning said isolated overtone parameter signal to a particular type of outgoing control signal.

78. (Rejected) The method according to claim 42, wherein said parameter processing unit combines a plurality of parameters of said isolated overtone parameter signal to generate a mathematically combined signal, and wherein said parameter processing unit generates said outgoing control signal by assigning said mathematically combined signal to a particular type of outgoing control signal.

79. (Rejected) The method according to claim 42, wherein said parameter processing unit processes a parameter of said isolated overtone parameter signal to generate a processed signal, and wherein said parameter processing unit generates said outgoing control signal by assigning said processed signal to a particular type of outgoing control signal.

80. (Rejected) The method according to claim 42, wherein said parameter processing unit processes a plurality of parameters of said isolated overtone parameter signal to generate a mathematically combined signal, and wherein said parameter processing unit generates said outgoing control signal by assigning said mathematically combined signal to a particular type of outgoing control signal.

81. (Rejected) The method according to claim 42, said method further comprising:

coupling a model-based overtone series calculator with said bandpass filter, wherein said calculator provides filter control signals for centering said bandpass filter.

82. (Rejected) The method according to claim 81, wherein said calculator further provides overtone center line frequency information to one or more of said at least one bandpass filter.

83. (Rejected) A method for control signal generation using detected dynamic characteristics of frequency components of an incoming electronic signal, said incoming electronic signal comprising a fundamental frequency component and at least one overtone component of a higher frequency than said fundamental frequency component, said fundamental frequency component and said at least one overtone component comprising an amplitude parameter and a pitch parameter, said method comprising:

isolating said at least one overtone component from said incoming electronic signal to provide an isolated overtone signal;

measuring amplitude of said isolated overtone signal to generate an isolated overtone parameter signal comprising said amplitude; and

generating an outgoing control signal based upon said isolated overtone parameter signal, wherein said outgoing control signal is adapted to control an external system.

84. (Rejected) The method according to claim 83, wherein said isolated overtone parameter signal comprises an amplitude parameter.

85. (Rejected) The method according to claim 83, wherein said isolated overtone parameter signal comprises a pitch parameter.

86. (Rejected) The method according to claim 83, wherein said incoming electronic signal further includes a plurality of overtone components, wherein each of said plurality of overtone components have a higher frequency than said fundamental frequency component, said fundamental frequency component and each of said plurality of overtone components comprising an amplitude parameter and a pitch parameter, said method further comprising:

isolating each overtone component of said plurality of overtone components of said incoming electronic signal using a corresponding plurality of bandpass filters, wherein said isolating of said plurality of overtone components generate a corresponding plurality of isolated overtone signals;

directing each isolated overtone signal of said plurality of isolated overtone signals to a separate signal parameter measurement element;

measuring amplitude of said plurality of isolated overtone signals to generate a corresponding plurality of isolated overtone parameter signals;

receiving said plurality of isolated overtone parameter signals at a parameter signal processing unit; and

generating a separate outgoing control signal for each parameter signal of said plurality of isolated overtone parameter signals.

87. (Rejected) The method according to claim 83, wherein said parameter processing unit generates said outgoing control signal based upon a ratio of a parameter of said isolated overtone parameter signal relative to a parameter of said fundamental frequency of said incoming electronic signal.

88. (Rejected) The method according to claim 83, wherein said parameter processing unit generates said outgoing control signal based upon a ratio of a first parameter of said isolated overtone parameter signal relative to a second parameter of said isolated overtone parameter signal.

89. (Rejected) The method according to claim 83, wherein said outgoing control signal comprises a signal of MIDI format.

90. (Rejected) The method according to claim 83, wherein said outgoing control signal is communicated to an external system comprising a synthesizer.

91. (Rejected) The method according to claim 83, wherein said outgoing control signal is communicated to an external system comprising a signal processor controlled by said outgoing control signal.

92. (Rejected) The method according to claim 83, wherein variations of said isolated overtone parameter signal are tracked over time.

93. (Rejected) The method according to claim 83, wherein said isolated overtone parameter signal is further processed by nonlinear warping.

94. (Rejected) The method according to claim 83, wherein said parameter processing unit generates said outgoing control signal by mathematical operations applied to a plurality of parameters of said isolated overtone parameter signal.

95. (Rejected) The method according to claim 83, said method further comprising:

coupling a model-based overtone series calculator with said bandpass filter, wherein said calculator provides filter control signals for centering said bandpass filter.

96. (Rejected) The method according to claim 95, wherein said calculator further provides overtone center line frequency information to one or more of said at least one bandpass filter.

EVIDENCE APPENDIX

No evidence is being entered nor relied upon in this Appeal.

RELATED PROCEEDINGS APPENDIX

There has been no Board decision for any of the applications identified in the Related Appeals section of this Appeal Brief.